

PRELIMINARY AMENDMENT and RESPONSE  
TO RESTRICTION AND ELECTION OF  
SPECIES REQUIREMENT  
U.S. Application No.: 09/831,509

**REMARKS**

Claim 1 has been canceled. Claim 2 has been rewritten in independent form. Claim 6 has been amended so that it may properly depend from claim 2. Claim 16 has been amended to delete "and/or branched chain" which is not claimed in claim 3 from which claim 16 depends.

Entry of the amendments is respectfully requested.

In response to the Restriction Requirement, Applicants elect Group I, claims 1-3, 6-7, 10-12 and 18 directed to a cross-linkable fluorine-containing rubber. This election (Restriction Requirement) is respectfully made with traverse upon entry and consideration of the Preliminary Amendment submitted herewith. U.S. Patent 5,789,489 to Coughlin et al corresponds to PCT Application No. WO97/19982, cited and discussed at pages 2-3 of Applicants' specification. The end group of the copolymer of Coughlin et al is not free carboxyl group, but is a carboxyl salt group or carboxamide group. A copolymer having carboxyl salt end group or carboxamide end group results in an increase in viscosity. See page 3 and Example 1 of Applicants' specification. Thus, Coughlin et al does not disclose Applicants' elastomer having free carboxyl group as claimed in independent claim 2. Namely, this is submitted to be the special technical feature linking the invention of Groups I, II and III, providing a contribution over the prior art. Thus, the Examiner is respectfully requested to withdraw the Restriction Requirement upon entry of the Preliminary Amendment.

In response to the Election of Species Requirement, Applicants elect the species "fluorine-containing elastomer having free carboxyl group at an end of a trunk chain and/or branched chain". This corresponds to species (a) as set forth in the Office Action dated January

PRELIMINARY AMENDMENT and RESPONSE  
TO RESTRICTION AND ELECTION OF  
SPECIES REQUIREMENT  
U.S. Application No.: 09/831,509

13, 2003, but modified to conform to the Amendment submitted herewith. The election of species is made without traverse.

If needed, a specific elastomer among the species "fluorine-containing elastomer having free carboxyl group at an end of a trunk chain and/or branched chain" is an elastomer of TFE/PMVE having free carboxyl group as described in the Examples of the specification.

Respectfully submitted,

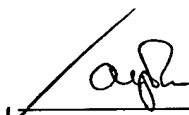
SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE



23373

PATENT TRADEMARK OFFICE

  
Abraham J. Rosner  
Registration No. 33,276

Date: February 5, 2003

PRELIMINARY AMENDMENT and RESPONSE  
TO RESTRICTION AND ELECTION OF  
SPECIES REQUIREMENT  
U.S. Application No.: 09/831,509

**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**Claim 1 is canceled.**

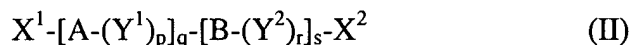
**The claims are amended as follows:**

2. (Amended) [The] A fluorine-containing rubber composition for crosslinking [of Claim 1], which comprises a fluorine-containing elastomer having carboxyl group at an end of a trunk chain and/or branched chain as a crosslinkable group.

6. (Amended) The fluorine-containing rubber composition for crosslinking of [Claim 1] Claim 2, wherein the fluorine-containing elastomer has carboxyl group [and/or alkoxycarbonyl group] at an end of a trunk chain and/or branched chain as a crosslinkable group and is represented by the formula (I):



or the formula (II):



wherein  $X^1$  and  $X^2$  are the same or different and each is carboxyl group, alkoxycarbonyl group, iodine atom, bromine atom or sulfonic acid group, Y,  $Y^1$  and  $Y^2$  are the same or different and each is a divalent organic group having carboxyl group, alkoxycarbonyl group, iodine atom, bromine atom or nitrile group at a side chain thereof, A is an elastomeric fluorine-containing polymer chain segment, B is a non-elastomeric fluorine-containing polymer chain segment, p is

PRELIMINARY AMENDMENT and RESPONSE  
TO RESTRICTION AND ELECTION OF  
SPECIES REQUIREMENT  
U.S. Application No.: 09/831,509

0 or an integer of 1 to 10, q is an integer of 1 to 5, r is 0 or an integer of 1 to 10, s is an integer of 1 to 3, any one of  $X^1$ ,  $X^2$ , Y,  $Y^1$  and  $Y^2$  is carboxyl group [or alkoxycarbonyl group], Y,  $Y^1$  and  $Y^2$  may be contained at random in the segment A or B.

16. (Amended) A process for preparing the fluorine-containing elastomer of Claim 3, which comprises polymerizing a fluorine-containing monomer by using, as one of a polymerization initiator and/or monomer, a compound giving carboxyl group to a trunk chain [and/or branched chain] and treating a polymerization product with an acid.